

Electrical code issues and answers.

● Implementation Activity for HVAC/R Electrical Specialty.

The department has begun implementing the requirements for HVAC/R contractor/electrician licensing/certification effective March 1, 2000.

Any firm, partnership, corporation, or individual that is not currently in compliance with the licensing and certification requirements is at risk of losing the ability to grandfather their HVAC/R experience. Continued non-compliance could result in citations. Electrical work permits and inspection of work is required for HVAC/R work. Compliance activity will follow the flow chart published in the March 2000 Electrical Currents.

● Telecommunications Permits

Effective June 8, 2000 you must be a licensed telecommunications contractor, a general electrical contractor (01), or a limited energy system specialty contractor (06) to purchase telecommunications work permits.

● Licensing, Certification, and Permits for Maintenance Work

Electrical maintenance, service, or repair work must be done by properly certified workers, employed by licensed electrical contractors, unless exempted in Chapter 19.28.610 RCW. The exemptions include:

1. Property owners and their regularly employed employees working on the premises of their employers, unless the electrical work is on the construction of a new building intended for rent, sale, or lease.
2. Utility type work as described in Chapter 19.28.200 RCW.
3. A householder assisting or receiving assistance from a friend, relative, or neighbor when none of the individuals doing the electrical work does not accept money or any other form of compensation for the volunteer work.

WAC 296-46-495(7) requires an electrical work permit: "*for installation, alteration, or maintenance of electrical systems...*" The following maintenance activities are exempted from the permit and inspection process: "*...replacement of circuit breakers or fuses, for replacement of lamps, snap switches, receptacle outlets or heating elements, replacement of a lighting fixture ballast with an exact same ballast, replacement of contactors, relays, timers, starters, or similar control components or for plug-in appliances or travel trailers.*" A proposed change to this section of the Washington Administrative Code would also exempt the replacement of a motor with a motor of like voltage and similar ampacity characteristics from the requirement to obtain an electrical work permit.

● When is illumination required for Electrical Equipment?

Where the electrical equipment is rated 600 volts and less, NEC 110-26(d) requires illumination for "*...all working spaces about service equipment, switchboards, panelboards, or motor control centers installed indoors.*" The general requirement in NEC 110-26 requires working space for all electrical equipment to where "*...examination, adjustment, servicing, or maintenance while energized...*" is necessary.

NEC 110 34(d) requires illumination for "*...all working spaces about electrical equipment...*", where the equipment is rated over 600 volts, whether the equipment is installed indoors or outdoors. The general requirement in NEC 110-34(a) requires "*working space in the direction of access to live parts...*" for all electrical equipment rated over 600 volts.

The Department has determined that for the purpose of determining the access and working space around transformers, transformers would not be considered as equipment likely to require examination, adjustment, servicing, or maintenance while energized and would not require working space unless there were renewable or adjustable parts in the transformer (such as bayonet fuses, switches or load-break elbows).

● Proposed changes to the WAC rules.

Listed below are some highlights of the draft WAC rule proposed changes to date:

- **WAC 296-46-090** “...the National Electrical Safety Code (NESC C2-1997) excluding Appendixes A and B are hereby adopted by reference as part of this chapter.” Proposed addition.
- **WAC 296-46-092** Specific HVAC/R and general definitions have been proposed which provide clarity and specificity to the terms used in chapter 19.28 RCW and WAC 296-46.
- **WAC 296-46-100** Revises the WAC requirements to more closely relate to the requirements in chapter 19.28 RCW. “(1) In order to meet the minimum electrical safety standards for installations, all materials, devices, appliances, and equipment, not exempted in chapter 19.28 RCW, must conform to applicable standards recognized by the department, be listed, or field evaluated.”
- **WAC 296-46-104** New section turns a policy on Traffic Management Systems into WAC rule.
- **WAC 296-46-215** Clarifies that GFI testing is required after all the feeders are installed.
“(2) Equipment ground fault protection systems required by the National Electrical Code must be tested prior to being placed into service to verify proper installation and operation of the system as determined by the manufacturer’s published instructions. This test or a subsequent test must include all system feeders.”
- **WAC 296-46-215/23040** Proposed definitions for the locations allowed for feeder and service disconnects. These changes will closely mirror the changes proposed in the 2001 NEC.
- **WAC 296-46-23062** GFI testing for service proposal will be similar to the requirements for GFI testing of feeders described in WAC 296-46-215.
- **WAC 296-46-500** The requirement for a redundant off switch in residential septic system has been removed (old WAC 296-46-50002(1)(g)). Other new proposed items are:
“(5) Indoor grinder pumps installed in chambers with less than ten gallons capacity require no special wiring methods, but do require venting as required above.
(6) Secondary treatment effluent pumping chambers such as sand filters are unclassified, and require no special wiring methods.
(7) Inspection approval is required before covering or concealing any portion of the septic electrical system, including the pump. New septic and effluent tanks containing electrical wires and equipment must be inspected and approved by the department prior to being loaded with sewage.”
- **WAC 296-46-514** A proposed requirement for a maintenance disconnect means has been added to address NEC 514(6) which was added in the 1999NEC. It reads as follows:
“(2) A maintenance disconnecting means or operator must be provided to disconnect individually, each dispensing device. The maintenance disconnecting means or operator must provide a separate and individual means to remove all external voltage sources, including feedback, during periods of maintenance and service for each individual dispensing device. For multi-circuit installations, an electrically held normally open contactor operated by a push-button is permitted to be used.”
- **WAC 296-46-670 Definitions.** This section for the definition of industrial control panels and industrial manufacturing, and food processing plants as been moved to a newly created section, **WAC 296-46-102**.
- **WAC 296-46-900 Electrical work permit and fees.** This section replaces WAC 296-46-495. It adds new requirements for the permitting of telecommunications work.
- **WAC 296-46-930** This section has been revised to reflect changes in specialty licensing and certification of contractors and administrators.

WAC 296-46-940 Is revised explaining new requirements for Electrical/telecommunication contractor licensing.